

Claims 1 through 4 were rejected under 35 U.S.C. §103 for obviousness predicated upon Shimizu et al.

In the statement of the rejection, the Examiner identified various features of the semiconductor device disclosed by Shimizu et al. said to correspond to those of the claimed invention. However, the Examiner admitted that Shimizu et al. do not disclose the use of a positioning mark. Nevertheless, and without providing any factual basis, the Examiner concluded that the disclosed dummy pattern cell (DPC) is an inherent positioning mark. This rejection is traversed.

In imposing a rejection under 35 U.S.C. §103, the Examiner is required to point out a source in the applied prior art for each claim limitation. *Smiths Industries Medical System v. Vital Signs Inc.*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999). That burden has not been discharged.

Specifically, independent claim 1 is directed to semiconductor device, comprising, inter alia, a plurality of dummy trench isolation regions between first and second regions and, **as an additional element, a positioning mark formed between the plurality of dummy trench isolation regions. This positioning mark is employed for positioning a mask film.** It is **not** apparent and the Examiner has made **no** attempt to discharge the initial burden by identifying wherein Shimizu et al. disclose or even remotely suggest a positioning mark formed between a plurality of dummy trench isolation regions as claimed. *Smiths Industries Medical System v. Vital Signs Inc.*, *supra*.

As far as the Examiner's inherency assertion is concerned, Applicant points out that the rejection is under 35 U.S.C. §103. In this respect, Applicants would rely upon

the decision by the Board of Patent Appeals and Interferences in *Ex parte Schricker*, 56 USPQ2d 1723, 1725 (BPAI 2000) wherein in the Board stated:

Inherency and Obviousness are somewhat like oil and water-
they do not mix well.

Moreover, the Honorable Board further held in *In Ex parte Schricker, supra.*, that:

However, when an Examiner relies on inherency, it is incumbent on the examiner to point to the "page and line" of the prior art which justifies an inherency theory.

That burden has not been discharged.

Nor has the Examiner discharged the burden of establishing a prima facie basis to deny patentability to the claimed invention by initially making the factual determinations required by *Graham v. John Deere Co.*, 86 S.Ct. 684, 383 U.S. 1, 148 USPQ 459 (1966). Nor has the Examiner made the requisite "factual findings" as to a specific understanding or specific technological principle which would have realistically impelled one having ordinary skill in the art to modify the semiconductor device disclosed by Shimizu et al. to arrive at the claimed invention based upon facts. *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 57 USPQ2d 1161 (Fed. Cir. 2000); *Ecolchem Inc. v. Southern California Edison, Co.* 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000).

Based upon the foregoing, it should be apparent that a prima facie bases to deny patentability to the claimed invention has not been discharged. Moreover, as set forth infra, there are **fundamental differences** between the claimed invention and the semiconductor device disclosed by Shimizu et al. that undermine any obviousness conclusion.

Differences between the Present Invention and the Semiconductor Device disclosed by Shimizu et al.

Shimizu et al. provide a dummy pattern near the outermost periphery of the cell array in which patterns are repeated regularly, for the purpose of suppressing process instability. However, Applicant stresses that Shimizu et al. do **not**, repeat **not**, arrange the dummy pattern for the purpose of determining the position of a mask for implantation. Rather, Shimizu et al. arrange the dummy pattern at the boundary between the memory cell portion and the peripheral portion to suppress process instability which is a conventional approach. As shown in Figs. 16B and 16C of Shimizu et al., the dummy pattern is a line-and-space pattern, not unlike that illustrated in Fig. 16 of the present Application. Specifically, the dummy cell (dummy pattern) of Shimizu et al. generates the very problem illustrated by the present disclosure. More specifically, although a mask 61 is formed as illustrated in Fig. 16C of Shimizu et al., there is **no** positioning mark in the structure disclosed by Shimizu et al. as in the present invention. Therefore, the mask position might be varied in the upward/downward direction in the illustrated Figure of Shimizu et al. In other words, the dimensional shifting of the mask can not be determined. Accordingly, it is impossible to cover the trench isolation by anti-oxide film, so that the trench isolation region is undesirably oxidized as disclosed at page 2 of the written description of the specification, line 28 through page 3, line 3.

The bottom line is that the semiconductor device disclosed by Shimizu et al. is nothing more than the prior art disclosed in the present Application, which prior art is plagued with problems addressed and solved by the present invention. The dummy pattern disclosed by Shimizu et al. **does not relate to a positioning mark**. That concept

is found nowhere in Shimizu et al. That concept is found **only in** Applicant's disclosure, which is forbidden territory upon which the Examiner may excavate for the requisite motivational element. *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985).

Conclusion

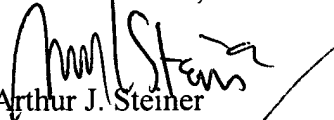
Based upon the foregoing, Applicant submits that the Examiner did not establish a prima facie bases to deny patentability to the claimed invention under 35 U.S.C. §103. Moreover, the above noted fundamental differences between the claimed invention and the semiconductor device disclosed by Shimizu et al. undermine any notion of unpatentability under 35 U.S.C. §103. Applicant, therefore, submits that the imposed rejection of claims 1 through 4 under 35 U.S.C. §103 for obviousness predicated upon Shimizu et al. is not factually or legally viable and, hence, solicits withdrawal thereof.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this

paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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